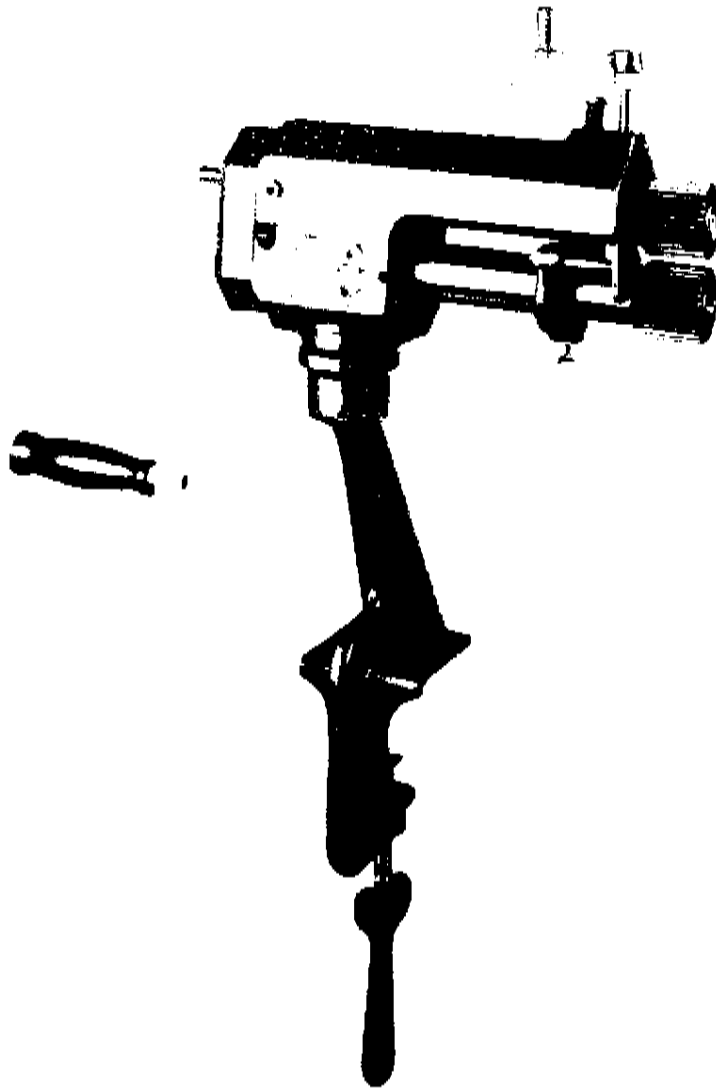


MODEL R22 COMBINATION ROTARY MACHINE

TENNSMITH®

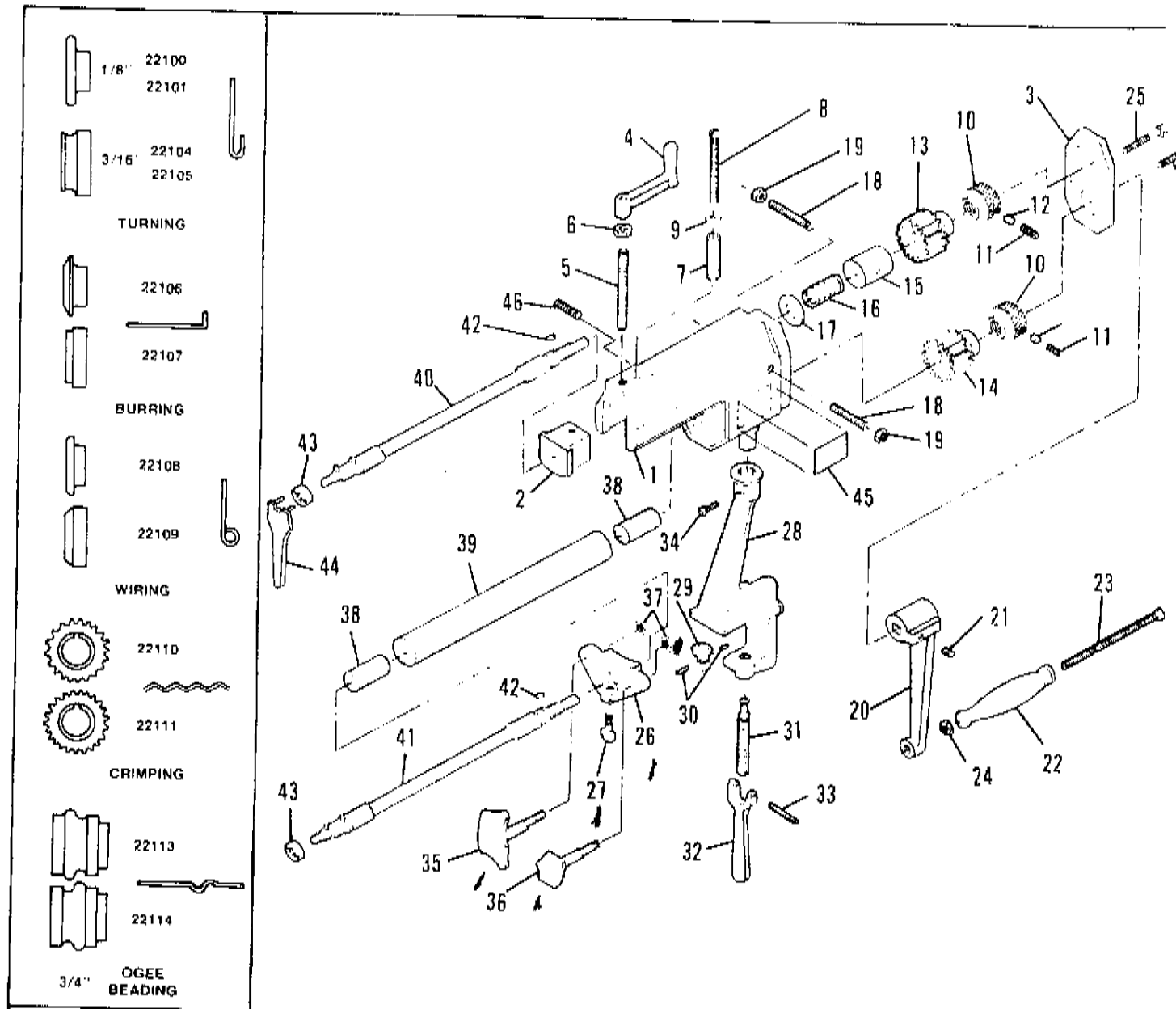


OPERATION, PARTS & MAINTENANCE MANUAL

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MODEL R22 COMBINATION ROTARY MACHINE PARTS LIST



ITEM NO.	PART NO.	DESCRIPTION	NO. REQ.	ITEM NO.	PART NO.	DESCRIPTION	NO. REQ.
1	27-40	MAIN HOUSING	1	24	27-63	NUT, HANDLE BOLT	1
2	27-41	FRONT UPPER BLOCK	1	25	27-64	SCREW, COVER PLATE	2
3	27-42	COVER PLATE	1	26	27-65	HOLDER, GAGE	1
4	27-43	ADJ., LEVER	1	27	27-66	THUMB SCREW, GAGE HOLDER	1
5	27-44	ADJ., SCREW	1	28	27-67	BENCH STANDARD	1
6	27-45	NUT, ADJ. SCREW	1	29	27-68	SWIVEL, CLAMP	1
7	27-46	SPRING, FRONT BLOCK	1	30	27-69	PIN, CLAMP SWIVEL	2
8	27-47	SCREW, FRONT BLOCK	1	31	27-70	SCREW, CLAMP	1
9	27-48	WASHER, SPRING SCREW	1	32	27-71	HANDLE, CLAMP	1
10	27-49	NUT, ARBOR ADJ.	2	33	27-72	PIN, CLAMP HANDLE	1
11	27-50	SCREW, ARBOR ADJ. NUT LOCK	2	34	27-73	SET SCREW, BENCH STANDARD	1
12	27-51	SHIM, LOCK SCREW	2	35	27-74	GAGE, TYPE "A"	1
13	27-52	GEAR, UPPER ARBOR	1	36	27-75	GAGE, TYPE "B"	1
14	27-53	GEAR, LOWER ARBOR	1	37	27-76	LOCK NUT, GAGE	2
15	27-54	ROCKING BOX	1	38	27-77	BUSHING, QUILL	2
16	27-55	SPRING, ARBOR	1	39	27-78	QUILL	1
17	27-56	WASHER, ARBOR SPRING	1	40	27-79	UPPER ARBOR	1
18	27-57	PIVOT SCREW, ROCKING BOX	2	41	27-80	LOWER ARBOR	1
19	27-58	NUT, PIVOT SCREW LOCK	2	42	27-81	WOODRUFF KEY, ARBOR	2
20	27-59	HANDCRANK	1	43	27-82	RETAINER NUT, ARBOR	2
21	27-60	SCREW, HANDCRANK LOCK	1	44	27-83	SPANNER WRENCH	1
22	27-61	HANDLE, HANDCRANK	1	45	27-84	NAME PLATE	1
23	27-62	BOLT, HANDLE	1	46	27-85	SCREW, LOWER ARBOR	1

FOREWORD

This manual has been prepared for the owner and operators of the TENNSMITH R22 Combination Rotary Machine. Its purpose, aside from operations instructions, is to promote safety through the use of accepted operating procedures. Read all instructions thoroughly before operating the machine.

Also contained in this manual is the parts list for your machine. It is recommended that only TENNSMITH or factory authorized parts be used for replacement parts.

WARRANTY

Your machine is warranted for one full year from date of purchase. The terms of the warranty are stated on the warranty registration card shipped with your machine. Please complete and return this card to activate your warranty.

SAFETY INSTRUCTIONS

1. Know the safety and operating instructions contained in this brochure. Become familiar with and understand the limitations of this machine. Always practice safety.
2. Wear approved eye safety protection such as glasses, goggles, etc. when operating the machine to protect your eyes.
3. Wear protective foot wear or safety shoes. Jewelry such as rings and watches should be removed when operating the machine.
4. Keep your hands clear of the forming rolls when operating the machine.
5. Be certain that the bench standard is securely clamped to the work bench and that the machine is securely bolted into the bench standard. The work bench on which the bench standard is mounted should be bolted to the floor.
6. Keep the work area around the machine clear and clean to avoid slipping or tripping.
7. Do not exceed the capacity of this machine which is 22 gauge (0.030 inches) mild steel.

RECEIVING THE MACHINE

Upon receipt closely examine the machine for damage during shipment. Be certain you have six sets of forming rolls, a crank handle and spanner. Any loss or damage should be noted in detail on the delivery receipt and reported to your distributor immediately.

INSTALLING THE MACHINE

Locate the machine in a well lighted area on a solid work bench which is bolted to the floor. Clamp the bench standard (27-67) to the work bench using the clamp handle (27-71). Place the main housing (27-40) boss into the cup on the top of the bench standard and tighten the set screw (27-73) to hold the machine in place.

ADJUSTING THE MACHINE

The R22 can be used for turning, burring, wiring, crimping and beading. The rolls are mounted on the arbor (27-29, 27-80) and are secured in place by the arbor retaining nuts (27-82). Use the spanner wrench (27-83) to tighten/loosen the arbor retaining nuts.

The handcrank assembly (27-59) is mounted on the end of the upper arbor (27-79) for burring and wiring operations. The handcrank assembly is mounted on the lower arbor (27-80) for crimping, beading and turning operations. The hand crank can be secured in place by tightening the set screw (27-60).

The adjusting screw and lever (27-43, 27-44) is used to move the upper arbor (27-79) and upper roll toward or away from the work piece and the lower roll. This adjustment controls the forming pressure of the rolls.

The upper arbor is laterally adjustable by loosening the set screw (27-50) and turning the arbor adjusting nut (27-49) clockwise or counter clockwise until the rolls are aligned. Be certain to retighten the set screw after the adjustment is made. End play of the lower arbor can be eliminated by a similar adjustment of the set screw and adjusting nut on the lower arbor.

The upper arbor (27-50) is also adjustable from side to side for alignment of the meshing of the crimping rolls. Loosen the pivot screw lock nuts (27-58) and turn the rocking box pivot screws (27-57) to align the crimping rolls. Retighten the lock nuts after the adjustment is made.

OPERATING THE MACHINE

The R22 is equipped with two gauges. The type "A" gauge (27-74) is used with the crimping rolls. The type "B" gauge (27-75) is for use with all other rolls. Only one gauge should be installed on the gauge holder (27-65) during operation.

The gauge position is adjustable by positioning the gauge holder on the quill (27-78) and securing in place by tightening the thumb screw (27-66).

With the rolls for the desired operation in place on the upper and lower arbors feed the work piece between the rolls while turning the handcrank (27-59). Adjust the forming pressure with the adjusting lever (27-43). The material may be passed through the rolls several times to achieve the desired result.

PRECAUTIONS

ALWAYS keep the machine securely bolted into the bench standard.

DO NOT try to force material through the rolls as damage to the machine may result. Use progressive pressure and repeated passes as necessary.

MAINTENANCE

Set up a weekly maintenance program for your machine. Check all nuts, bolts and set screws for tightness. Examine all moving parts for adequate lubrication.

The moving parts of the machine (screws, rocking box, arbors, bearings and gears) should be lubricated periodically and as necessary to maintain ease of operation and prolong the life of your machine. The gears should be oiled daily with a good grade of 30 weight machine oil.

ORDERING PARTS

When ordering parts please furnish the serial number of your machine.

TENNSMITH®

MAKING SHEET METAL MORE PRODUCTIVE

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